AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		1. CONTRACT ID CODE	PAGE OF PAGES *
2. AMENDMENT/MODIFICATION NO. PR-CI-03-10779/0001	3. EFFECTIVE DATE 07/10/03	4. REQUISITION/PURCHASE REQ. NO. PR-CI-03-10779	5. PROJECT NO. (*If applicable*)
6. ISSUED BY CODE Environmental Protection Agency Contracts Management Division 26 W. Martin Luther King Drive Cincinnati, OH 45268		7. ADMINISTERED BY (*If other than item 6*) CODE Not Applicable.	

8. NAME AND ADDRESS OF CONTRACTOR (*No., street, county, State and ZIP Code*)	(✓)	9A. AMENDMENT OF SOLICITATION NO.
To All Offerors/Bidders.		PR-CI-03-10779
	✓	9B. DATED (*SEE ITEM 11*) 06/19/03
		10A. MODIFICATION OF CONTRACT/ORDER NO.
		10B. DATED (*SEE ITEM 13*)
CODE FACILITY CODE		

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

[X] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers [ ] is extended, [X] is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning 1 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(✓)	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (*Specify authority*) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (*such as changes in paying office, appropriation date, etc.*) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	c. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (*Specify type of modification and authority*)

E. IMPORTANT: Contractor [ ] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (*Organized by UCF section headings, including solicitation/contract subject matter where feasible.*)

The purpose of this amendment is to issue Answers to Questions received regarding this solicitation.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (*Type or print*)		16A. NAME AND TITLE OF CONTRACTING OFFICER (*Type or print*) DAVID H. PLAGGE	
15B. CONTRACTOR/OFFEROR (*Signature of person authorized to sign*)	15C DATE SIGNED	16B. UNITED STATES OF AMERICA (*Signature of Contracting Officer*)	16C. DATE SIGNED

NSN 7540-01-152-8070 30-105 STANDARD FORM 30 (REV 10-83)
PREVIOUS EDITION UNUSABLE Prescribed by GSA
FAR (48 CFR) 52.243

AMENDMENTS TO THE SOLICITATION

1. The attachment entitled "QUESTIONS AND ANSWERS" has been added. The text is as follows:

Technical Questions:

1. Does EPA require acceptance testing to be done at the manufacturer's facility to use the flywheel and whether that added any value to the contract.

Answer: The contractor will be preparing an acceptance test plan which must be approved by the EPA. System response time should be verified in the acceptance testing. The contractor should suggest the best method of verifying response time. If it is determined that testing by a flywheel is desirable, the EPA does have a flywheel available for this testing. The flywheel test is referenced as a means to fully specify the requirement. Other methods of demonstrating compliance with the requirement may be acceptable.

2. On the torque transducer, the wording referred to “A contactless, non-rotary in-line transformer torque transducer.” Does that allow the use of a telemetry-based system?

Answer: Yes

3. On the standalone safety system (paragraph 2.6.5), the solicitation mentions that the system shall allow for yellow and red limits. Another section talks about the inputs that each channel shall accept as dry contact digital inputs. It is not clear if these are digital or analog. Also, 2.6.5 does not address the system as a standalone.

Answer: All input channels are digital logic level inputs. Each input channel is defined as either being a yellow or ‘warning’ type, or a red or ‘danger’ type. There are two channels identified as outputs, which are also digital logic levels. One output corresponds to whether any of the yellow channels have been tripped, and the second output corresponds to whether a red channel has been tripped. The system was envisioned to be completely independent from the test cell controller (TDAP). The system should be able to shut down the test cell on its own, whether or not the TDAP was operating at the time.

4. If today’s questions are not formalized in writing, will the responses be part of an amendment?

Answer: Yes, these questions should be written down and they will be part of the amendment when it comes out next week.

5. In Section 1.3, the solicitation divides Dynamometer Cells 2 and 4 but in the discussion of Dynamometer Cell 4 under 1.3.5, it states that the contractor shall disconnect the existing dynamometer from Cell 2 and remove it for storage purposes. Are both of these dynamometers to be removed for storage?

Answer: HD Dyno 2 should be decommissioned and removed. The contractor will remove the equipment from the test cell and place this equipment in a storage location on-site. The requirement is as stated in Section 1.3.5.

6. Is the contractor going to remove the equipment from the test cell or is EPA going to do that?

Answer: The contractor will remove the equipment from the test cell and place this equipment in a storage location on-site.

7. (On page 220, modes) Is EPA looking for a spare card?

Answer: EPA has found that the needs escalate as new equipment is installed and EPA continually has to add more capability. EPA is trying to get enough capability in the base system so that upgrades do not have to be done as often.

8. (On page 220, item 2.2.13, control loops). What is meant by the term “self tuning channels?”

Answer: The bidders should propose what they feel is an appropriate level of intelligence or automation for a “self-tuning” capability. The “self-tuning” capability was envisioned as a tool which the test cell technician could use to help meet the requirements for speed and load control as described in Section 2.5.

9. Is the self-tuning just for the auxiliary equipment and exhaust backpressure or is it for the dynamometer and engine throttle?

Answer: It is for the dynamometer, throttle and auxiliary equipment

10. (2-56, Appendix D) Items 1.01 and onward refer to a site computer. Is that the same as the TDAP?

Answer: Yes. The "site computer," as that term is used in Appendix D, is the same as TDAP. As shown in Figure 1, EPA will provide the interface computer (IFC) and expects to transfer data back and forth to the TDAP according to the protocol described in Appendix D.Question 11: (page 2-40, paragraph 3.0.5) This item says contractor shall provide a supply of consumable items for approximately six months.

11. What does that mean?

Answer: This means things that have a life expectancy of six months or less (e.g., filters, pump diaphragms, seals, fuses). EPA is asking the contractor to provide what they think EPA would need during the first six months using their best judgment.

12. Why is EPA requiring both a case load cell and an inline torque meter?

Answer: Trunion mounting is required along with case load torque measurements, as described in Section 2.3.3. The case load measurements offer a convenient calibration check to the in-line torque measurement. They also provides a redundant measurement of torque which can be logged concurrently with in-line torque data. Case load measurements also offer a different frequency response than in-line torque measurements and may offer valuable insights into validation of filtering algorithms of the in-line measurements. This may offer benefits both in steady state and transient engine operation.

13. (re calibrations, page 213) It is not clear what is meant by some of the items on this list (serial number, verification code, etc.). Is there any way to get more details?

Answer: This is Section 1.5.10, on the top of page 213. This list is the information EPA wants the test operator to be able to enter. An interface is needed to allow the operator to do that.

14. How would EPA handle pending calibrations? There is a requirement in the solicitation to find a functionality for identifying the calibrations that are pending and not yet active.

Answer: EPA is looking for functionality to identify and define when calibrations are

active by a date-driven system. This system allows for the possibility that a calibration may not be made active immediately. This system would control when a calibration is used from a beginning date to an end date.

15. (AC dynamometer and Off-site acceptance testing) Is EPA looking for cost saving initiatives to be recommended (as opposed to doing off-site acceptance testing and what that would cost EPA, bidders could suggest a different means of acceptance testing)? Does EPA want alternatives to the specification called out?

Answer: EPA is always glad to hear about alternatives that improve upon the requirements or present cost savings. EPA is particularly concerned about running engines over various transient cycles, which is why the solicitation has identified that as a minimum requirement. EPA prefers, to the extent possible, to work out as many of the equipment commissioning issues as possible before the equipment gets installed at EPA.

16. Related to the previous comment, does EPA want options for drive by wire, for example?

Answer: Yes. Electronic control of the throttle, or “drive-by wire” is required for the base system.

17. Is it a requirement that the EPA test system be duplicated at a remote location for acceptance testing? Our understanding of the Solicitation is that parts of the system in the existing cells may be used in the new system. If that is the case, how can the system be demonstrated in a remote location? Can components of the system be demonstrated separately, i.e. could the dyno be subjected to a stand-alone acceptance test, the high-speed data acquisition to a separate test?

Answer: There will be at least two acceptance testing activities. One at the contractor’s facility and one at the NVFEL for the final acceptance. Any Government supplied equipment (list in Appendix B) to be integrated into the test cell controller will not be available until the test site is taken out of service to begin the installation. Acceptance testing using the Government supplied equipment therefore, will be done during the final acceptance. Acceptance testing at the contractor’s facility will include equipment that the contractor is supplying. These details will be worked out as the acceptance test plan is developed; however, the intention was to focus on the dynamometer and associated controls with actual engine running during the acceptance testing at the contractor’s facility.

18. In Section 2.6 Stand Alone Safety System, It is usual for the safety system to be integrated with the test bed control system so that it can schedule hard and soft stops. As a back up, a computer independent safety system will force the idle condition in the event of the control system failure. Given that if the control system fails it is not possible to control a soft or hard stop, what is the thinking behind the need for a "stand alone safety system". Is it allowable to provide all the functionality requested integrated with the control system rather than a totally stand alone system which cannot schedule soft and hard stops?

Answer: No. Our intention was for the safety system to be operational at all times and for it to operate independently from the TDAP. There may be times when we want to run the test cell manually, without TDAP, in which case we want the safety system to be functional and active. There may be other times when TDAP fails, and we want a safety system to be able to shut down the test cell.

19. How would you like us to submit optional items and the pricing for the optional items which are not specifically requested in the solicitation?

Answer: If you would like to propose a different product(s) or approach(s) that you feel in may be an improvement over what is described in the statement of work, please describe this in your proposal where you are responding to that portion of the statement of work. The pricing for the different alternatives can be described in the Contract Line Items section.

20. In section 2.3.3, the proposed dynamometer is to feature "trunnion" mounting. In our company, the term "trunnion" mounted refers to a specific method of allowing for the case of the dynamometer to rotate. Can we assume the method of trunnion mounting is up to the provider as long as the dynamometer can meet the requirements for case load torque measurements?

Answer: Yes, as long as the statement of work requirements are met.

21. In Section 1.1.5 page 2-6 of 88, What are the customer requirements being referred to on the Competence of Testing and Calibration Laboratories for ISO DIS 17025

Answer: Section 1.1.5 is merely the reference citation for the document, which is subsequently referenced in certain specific requirements in the Statement of Work. Our goals related to quality system development at NVFEL are closely aligned with the requirements of ISO 17025, thus we are using that standard to

guide some aspects of work done under contract for the laboratory.

22. In Section 1.2.4 page 2-7 of 88, Can we get clarification on what is meant by "manner suitable" for documenting measurement traceability & system acceptance for audit to ISO 17025 standards?

Answer: ISO 17025 deals very specifically with various technical requirements for the performance of traceable measurements and calibrations, documentation related to those measurements and calibrations, and other technical records. The requirement of Section 1.2.4 is that the activities and documentation referenced in 1.2.4 are carried out in such a way that they would be found to be in compliance with relevant aspects ISO 17025. For example ISO 17025 outlines specific content requirements for calibration certificates. We are not requiring that the contractor themselves be ISO 17025 accredited, a process which involves considerably more than the narrow requirements presented by Section 1.2.4.

23. In Section 1.5.4 page 2-11 of 88, We are ISO 9001:2000 compliant, where does the ISO DIS 17025 fit in for compliance?

Answer: ISO 17025 and ISO 9001 are of course very similar. Any organization compliant with ISO 17025 is automatically compliant with ISO 9001. However because ISO 17025 extends the technical requirements of ISO 9001, the reverse is not automatically true. As stated previously, our goals related to quality system development at NVFEL are closely aligned with the requirements of ISO 17025, thus we want test equipment we purchase to function in such a way as to support ISO 17025 compliance for our laboratory.

24. In Section 2.3.17 page 2-34 of 88 and Section 2.3.20 page 2-35 of 88, The specification calls for shaft centerline height of 30 - 36 inches. Must the dynamometer be able to adjust to this range of centerline heights or does the specifications only require that the centerline height be within this range?

Answer: The centerline height must be within this range.

25. In Section 5.0.6 page 2-42 of 88, What format is the preliminary acceptance report expected to be in after the off-site testing?

Answer: There are no specific format requirements for the Acceptance Test Report beyond those put forth in the Statement of Work. EPA recognizes that individual contractors may have specific formats or templates that work well in their organizations and that would be suitable as long as the report clearly identifies the test conditions and equipment as outlined in ISO 17025.

26. In Attachment 3 2(c) page 3-3 of 4, What detail will be needed in the Quality Assurance Plan to demonstrate how it will assure compliance with contract requirements and how the products delivered will support a system on on-going quality assurance?

Answer: This description can be fairly general, but at the same time contain sufficient specificity to demonstrate:

1. An organized, committed and effective approach to providing high quality test equipment, which meets customer requirements.

2. That the delivered equipment will provides effective features that EPA will be able to use to efficiently assure a high level of measurement quality in our test programs.

27. Who at EPA will be the overall Project Manager responsible for coordinating all of the vendors involved in the upgrade project? Is this person available for direct contact, if so, what is their contact information?

Answer: A Project Officer will be identified at the time of contract award. In the mean time, questions should be directed to Scott Tharp.

28. In Section 1.3.5 page 2-8 of 88, In the bidders meeting July 1, EPA indicated that actual removal of the equipment in HD Dyno 2 will be performed by EPA and that the seller will only disconnect and label. Is this what EPA wishes the bidders to propose?

Answer: HD Dyno 2 should be decommissioned and removed. The contractor will remove the equipment from the test cell and place this equipment in a storage location on-site. The requirement is as stated in Section 1.3.5.

29. In Section 1.5.2 page 2-11 of 88, Please explain or provide an example of a power supply that should be NIST traceable?

Answer: There is no requirement for a NIST traceable power supply in the Statement of Work. The expectation is that voltage measurements, among others, would be made with NIST traceable equipment. We believe this is a conventional requirement for any instrumentation laboratory.

30. In Section 1.7.2 page 2-14 of 88, Is the 480 VAC utility grade power Y or D configuration?

Answer: Y configuration.

31. In Section 1.7.9 page 2-14 of 88, To what extent is the Contractor responsible for spare power receptacles beyond the contractor supplied equipment cabinets and boom enclosure?

Answer: None.

32. In Section 2.2.1 page 2-17 of 88, Is VXI technology required? Is it preferred? What are the real-time processor performance (i.e speed, ram, etc.) requirements?

Answer: VXI is not required. Rather than mandate a solution, we felt it would be better for the bidders to suggest an optimal solution to meet the needs as described in the statement of work. Please propose a system which you feel would be appropriate.

33. In Section 2.2.12 k thru p, What is the specific intent for all the spare channels? Does EPA want the price for these channels included in the base proposal or as an option?

Answer: The specific intent for the spare channels is to allow adequate capacity in the base system. Please include the price for these channels as part of the base system.

34. In Section 2.2.13 page 2-20 of 88, Please define the complete requirements of the "self-tuning" capability for the closed loop control channels.

Answer: The bidders should propose what they feel is an appropriate level of intelligence or automation for a “self-tuning” capability. The “self-tuning” capability was envisioned as a tool which the test cell technician could use to help meet the requirements for speed and load control as described in Section 2.5.

35. In Section 2.3.3 page 2-30 of 88, This section requires trunnion mounted dynamometer. Is this an absolute requirement as industry is consistently moving towards fixed mounting and use of a torque flange? This was explained in the Bidders meeting, July 1, but we ask again for written clarification.

Answer: Trunion mounting is required along with case load torque measurements, as described in Section 2.3.3. The case load measurements offer a convenient calibration check to the in-line torque measurement. They also provides a redundant measurement of torque which can be logged concurrently with in-line torque data. Case load measurements also offer a different frequency response than in-line torque measurements and may offer valuable insights into validation of filtering algorithms of the in-line measurements. This may offer benefits both in steady state and transient engine operation.

36. In Section 2.3.12 page 2-32 of 88, This section refers to "electronic and numerical methods" to determine dynamometer acceleration. Does this mean that the Contractor is required to supply both an external device that is read by the TDAP and a software method implemented within the TDAP to calculate acceleration? Which method is used during acceptance testing and engine testing?

Answer: We would expect that dynamometer speed would be sensed with an external device such as a speed encoder. Since the encoder signal would need further interpretation to provide acceleration, the resulting measurement would be accomplished by "electronic and numerical methods." Other methods of obtaining the required result may also be suitable. Independent methods to determine acceleration are not required.

37. In Section 2.3.13 page 2-32 of 88, This section refers to a "transformer torque transducer" Is an in-line torque transducer that uses telemetry also acceptable?

Answer: Yes.

38. In Section 2.5.2 page 2-37 of 88, Will the EPA provide an appropriate flywheel for the purposes of this section? Carl Ryan seemed to indicate that this testing was required and that EPA might have a flywheel for the Contractor to use. The flywheel would need to be sized based on the specific dynamometer performance expectations and it is not a typical piece capital equipment the Contractor would be expected to own. Consequently, this is a significant expense to add to the order.

Answer: The contractor will be preparing an acceptance test plan which must be approved by the EPA. System response time should be verified in the acceptance testing. The contractor should suggest the best method of verifying response time. If it is determined that testing by a flywheel is desirable, the EPA does have a flywheel available for this testing. The flywheel test is referenced as a means to fully specify the requirement. Other methods of demonstrating compliance with the requirement may be acceptable.

39. In Section 2.6.3 and 2.6.5 page 2-38 of 88, This section requires user defined limits and red or yellow alarm actions which imply analog or level type of signal. It also defines channels to accept N.O. or N.C dry relay contacts or logic level signal implying digital signals. What type of input signals are expected analog or digital?

Answer: All input channels are digital logic level inputs. Each input channel is defined as either being a yellow or 'warning' type, or a red or 'danger' type. There are two channels identified as outputs, which are also digital logic levels. One output corresponds to whether any of the yellow channels have been tripped, and the second output corresponds to whether a red channel has been tripped. The system was envisioned to be completely independent from the test cell controller (TDAP). The system should be able to shut down the test cell on its own, whether or not the TDAP was operating at the time.

40. In Section 4.0 page 2-40 of 88, Is it required to include existing facility specifications and information in Contractor's documentation or drawings?

Answer: No

41. In Section 5.0.2 page 2-41 of 88, EPA stated they will provide an engine for use in factory acceptance testing. What are the displacement, maximum horsepower, speed at maximum power, maximum torque, speed at maximum torque, and maximum operational speed of this engine?

Answer: EPA can supply an engine for acceptance testing. The engine would be a Caterpillar C12, 355 hp diesel engine. 12 liter, 355 hp, 1800 rpm speed at max power, 1350 ft-lb max torque, 1200 rpm speed at max torque, 2100 rpm max speed.

42. For the sake of demonstrating dynamometer system transient performance can the Contractor demonstrate this at either lower power settings of the intended dynamometer system or at full rated loads of a lower rated dynamometer system of the same type (make, model, mfg) as the intended dynamometer system? The issue is AC power available in the Contractor's local facility, there may not be enough ampacity to run the 600 HP system at rated loads.

Answer: The contractor will be preparing an acceptance test plan for the approval of the EPA. The acceptance test plan is intended to verify the operations of the systems. EPA prefers demonstration of the dynamometer system utilizing full power. However, lower power settings or full rated loads would be acceptable. Practical limitations like this will need to be in your proposals acceptance test plan.

43. In Section 2.2.24 j page 2-25 of 88, ECU communication is inferred, but the requirements are not clearly defined. Does this contract require the Contractor to provide an interface with the ECU? If so, what are the specifications of the ECU and what communication protocol needs to be supported?

Answer: The TDAP system should have the capability of adding ECU communication in the future. The industry standard is SAE J1939.

44. In Appendix C Section 5.1 page 2-53 of 88, Description of "Format 1" is a bit confusing. Please explain in greater detail the meaning of the last two lines of the format description. which starts with "Value string" and "text string . . . "

Answer: The purpose of the last line in the format description (starting with "text string") is to provide various options for the "Value string". The value string may consist of a text string or a numeric code and may include code text(s) and/or numeric value(s) with optional units specified.

Examples:
mfr = 40 General Motors
spEngRated = 2500 rpm
Test = 13 Transient 7

45. In Appendix D several places, There is a reference to the "site computer" which will be "provided as part of the system." Does this refer, in terms of the Statement of Work, to the TDAP computer?

Answer: Yes. The “site computer”, as that term is used in Appendix D, is the same as TDAP. As shown in Figure 1, EPA will provide the interface computer (IFC) and expects to transfer data back and forth to the TDAP according to the protocol described in Appendix D.

46. In Appendix D Section 1.0.6.16 page 2-69 of 88, Please clarify, table is labeled "Stamdard Constants" or is this supposed to be labeled "Standard Constants"?

Answer: “Standard Constants”

47. In Appendix H Section A 17 page 2-83 of 88, Where can we get information of the IFEF file format? Or is this a typo? Where can we get information of the IB/1 floating point file format? Or is this a typo?

Answer: IFEF is a typo, it should be IEEE file format
IB/1 is a typo, it should be IBM 370 floating point file format

48. In Appendix H Section C page 2-84, Does 8 TTL inputs mean 8 TTL outputs? There are 16 TTL inputs listed four lines about this line item.

Answer: Yes, it should have read 8 TTL outputs.

49. In Appendix H Section C 1 page 2-85, Is the "EPA supplied charge amplifier" a Kistler charge amp. What is the model number?

Answer: Kistler 5011B11Y26, or equivalent

50. In Appendix H Section C 2 page 2-85, What are the physical characteristics (i.e. dimensions, temperature range, and pressure) of the "in-cylinder pressure transducer"?

Answer: Kistler 6067C1 or Kistler 6061B, or equivalent

51. In Appendix I page 2-87 of 88, When does decommissioning start? Who is responsible for decommissioning equipment not specifically listed in section 1.3.5?

Answer: Decommissioning will need to be scheduled at the convenience of the EPA and the contractor. Decommissioning will begin no later than 260 days after contract award. Decommissioning of equipment not listed in 1.3.5 will be done by the EPA.

52. In Appendix I page 2-87 of 88, Does the timing schedule listed in Appendix I reflect timing for one test cell, for both test cells concurrently, or both test cells sequentially?

Answer: The timing appearing in the Schedule of Deliverables reflects the schedule for both cells. As indicated in the Schedule, both HD 2 and HD 4 must be completed 360 days after contract award.

53. In Appendix I page 2-87 of 88,What is expected date the order to be placed with the chosen Contractor?

Answer: Award is anticipated to be made in September, 2003.

54. In Attachment 6 page 6-2 of 2, What allowances or concessions are provide for if the Contractor is late due to EPA delays?

Answer: The schedule will be adjusted if the delay is caused by the EPA.